factor, Mr. Rhinehart proposed a revised maintenance factor for General Purpose Computers based on data provided by SWBT in this cause.

SWBT's power equipment factor for General Purpose Computers is unsupported and should be eliminated from SWBT cost studies for fear that the factor double-counts computer investments. SWBT's proposed building investment factor is flawed because it does not conform to LRIC principles. Mr. Rhinehart proposed adjustments to include radio equipment in its computation and to account for prospective colocation space use by new entrants.

SWBT's inclusion of inflation in its cost studies is incorrect. Mr. Rhinehart testified that SWBT's claim that their cost studies capture expected productivity gains is patently false. He recommended that all inflation factors be eliminated from SWBT's cost studies.

Mr. Rhinehart evaluated SWBT's common cost computations and recommend six substantive changes. First, SWBT's 1995 point-in-time factor should be adjusted downward to reflect the known and measurable SWBT's long-term downward trend in common costs. Second, SWBT's common costs should be adjusted downward to correct for the disproportionate assignment of corporate overheads to Oklahoma. - Third, there should be a minor downward adjustment to reflect expected economies of scale being achieved through the SBC-Pacific Telesis merger. Fourth, Mr. Rhinehart added some support asset costs inadvertently excluded by SWBT. Fifth, the common cost factor should be computed as a proportion of revenues instead SWBT's method which is based on expenses. The fifth adjustment is necessary to match the computation of the common cost factor to its application. Specifically, LRIC costs include expenses and profit. A common cost factor established as a proportion of expenses only will be overstated. Finally, while SWBT used the principles as well, Mr. Rhinehart extended the concept of avoided retail costs into more portions of the common cost factor development. Mr. Rhinehart recommended a common cost factor is 10.46%.

Mr. Rhinehart developed revised loaded labor rates for use in SWBT's recurring and non-recurring cost studies. As discussed in the paragraph on support assets above, support asset costs are accounted for in recurring cost studies and in labor-rate based non-recurring cost studies. The inappropriate double-count is best eliminated through exclusion of support asset costs from loaded labor rates linked to network assets. Separately, Mr. Rhinehart opposed SWBT's use of multiple support assets factors in loaded labor rates for operator services management and non-management personnel. Instead, only one support assets factor should be used for all such labor rates. Mr. Rhinehart also opposed the inclusion of sales commissions in the development of loaded labor rates for unbundled network elements as SWBT does not pay commissions to its employees for sales to new entrants. Finally, Mr. Rhinehart proposed that SWBT not be permitted to impose differential overtime and premium time labor rates for Time and Materials Charges and Maintenance of Service Charges because all labor rates proposed by SWBT include average overtime and premium time pay allowances.

In his rebuttal testimony, Mr. Rhinehart took issue with the Commission Staff Consultant conclusion that two AT&T-proposed adjustments to SWBT's common cost factor should not be adopted. Mr. Rhinehart quantitatively demonstrated the disparity of expense assignment to Oklahoma of executive, planning, general and administrative costs and questioned why costs generally incurred on a corporate level should be assigned to the states in a disproportionate manner. He defended his proposed Telesis Merger common cost adjustment by providing evidence that SWBT has entered into contracts with Pacific Bell Communications for certain administrative functions, the costs of which would have been recorded in SWBT's common cost accounts.

Mr. Rhinehart allayed the Staff's fears that AT&T's proposal to eliminate the support assets factor from certain loaded labor rates went too far were misplaced. Support asset costs for non-network-related functions remain fully recoverable through appropriate labor rates and through the common cost factor.

Finally, Mr. Rhinehart provided clarification regarding overtime and premium time labor rates in SWBT's Time and Materials cost study. SWBT's proposed exclusion of the premium time factor from the development of the applicable labor rates was inappropriate because all labor rates in SWBT's studies include an allowance for overtime and premium time. He recommended the use of the standard loaded labor rates (as adjusted by AT&T) for all cost studies where labor times are used.

Finally, Mr. Rhinehart reviewed the portion of the rates contained in the proposed settlement between SWBT, Cox Communications and Commission Staff relating to Cost Factors (the "Proposed Settlement Rates"). The proposed settlement rates do not represent cost based rates which satisfy either the Oklahoma costing rules (OAC 165:55-17-25 and OAC 165:55-17-27) or the relevant provisions of the Telecommunications Act of 1996. A simple average of the AT&T and SWBT recurring rates cannot possibly reflect the selection of inputs that would be used to determine a fully cost-based set of rates. The proposed settlement rates do not incorporate all of the changes which are necessary in order to render SWBT's cost studies compliant with the Act and the Oklahoma costing rules as outlined in my testimony. The proposed settlement does not take into account the changes proposed by Mr. Rhinehart with which SWBT agreed. Indeed, the proposed settlement rates do not even incorporate or represent the changes and recommendations of Commission Staff consultants and, therefore, cannot be cost-based even based upon the recommendations of Commission Staff's own consultant. The Commission should not adopt these rates.

Summary of Cross-Examination of Daniel P. Rhinehart

On questioning by the ALJ, Mr. Rhinehart stated that inputs to the cost studies have very, very critical effects on the outputs. He mentioned four specific factors that alone affect the total costs and total rates by approximately 25%. He was unable to state whether AT&T could compete under the rates proposed by the stipulation.

Under cross-examination by Cox, Mr. Rhinehart first stated that AT&T's proposed rates are the only cost-based rates presented in the cause. Unless the Commission adopts AT&T's proposed rates in total, it has not complied with the LRIC standards, in his opinion.

Nonetheless, he conceded that costing is not an exact science, that some element of judgment is involved, that estimating is required and that costs for future periods must be analyzed. He also conceded that AT&T does not now know what the inflation factors will be in future years under the Interconnection Agreement with SWBT. He conceded that reasonable judgments of what inflation might be in the future will differ, and that the cost derived from those estimates will differ also.

Mr. Rhinehart also conceded that the cost of capital is an input in the costing process and that AT&T had agreed to a compromise cost of capital of 10% which was different from the cost initially proposed by AT&T. Nevertheless, he considers the 10% stipulated rate to be cost-based and forward-looking, satisfying the standards of the Federal Act.

He declined to agree that only those compromises to which AT&T agrees with will satisfy LRIC standards. He stated that there are some judgments involved with determining costs.

6. Leo D. Segura

Mr. Segura is a Technical Manager for AT&T. In his testimony, he demonstrated that, according to LRIC principles, as well as provisions of the Telecommunications Act of 1996, prices as outlined throughout the SWBT cost studies, are inflated by the use of manual activities, embedded technologies and processes, and use of labor rates which are inconsistent with the activity being performed. In addition, these studies assume manual processes for ordering service which are not forward looking and serve to drive up the cost of service, and extend provisioning intervals, for the Local Service providers.

SWBT's cost studies give little consideration for forward looking, efficient systems and processes. Under LRIC principles, costing for Total Service Resale (TSR) and unbundled network elements (UNE), must be based on forward looking, efficient Operating Support Systems (OSSs), and clean up-to-date databases, which reduce the incidence of manual intervention, and enhance the opportunity to flow through service orders for UNE and TSR. In addition, forward looking and efficient network technologies are to be considered in order to maximize efficiencies and improve the ability to provision, and maintain, service on a flow through basis, consistent with industry standards and best business practices.

There are four fundamental problems with the cost studies as proposed by SWBT:

1. The processes and technologies, as assumed by SWBT, foster manual service order input and manual cross connecting of service. In the case of ordering service, SWBT's studies assume that manual processing of the LSP's order will be the process of choice. In addition, technologies such as Universal Digital Loop Carrier instead of Integrated Digital Loop Carrier are assumed in SWBT cost studies. Neither of these assumptions foster flow through provisioning and maintenance. Rather, utilizing these methods and technologies only serves to drive up the cost of service, and prohibit efficient provisioning and maintenance of service. By utilizing the efficiencies of

forward looking technology and processes, the cost of manual intervention, increased fallout, and longer maintenance activities can be avoided. Since the majority of activities related to ordering, provisioning, and maintaining of service will be taken on by the LSP, the high costs of NRCs and costs to the customer, can be minimized.

2. A second problem with SWBT studies is related to the Loop/Port combination. In these studies, SWBT assumes that the new entrant will gain access to the local digital switch via an intermediate toll frame. This assumption is incorrect in that this toll frame, from an interconnection standpoint, is not required. In fact, this intermediate frame serves only to drive up the cost by requiring additional manual cross connects, which otherwise could be remotely provisioned utilizing forward looking processes and technology in the same manner in which SWBT provisions it's own services.

3. The third problem with the SWBT NRC studies is the recovery of Installation and Maintenance (I&M) costs. When a new entrant purchases a loop, the I&M costs associated with this installation are already included in recurring cost of purchasing the service. Charging a NRC for I&M would constitute a double recovery. In addition, AT&T's NRC costs related to loop facilities assume that dedicated inside plant (DIP) and dedicated outside plant (DOP) will be utilized. AT&T's NRC model assumes that a totally new loop to the customer location would not be put in place for the new entrant. Thus, the cost of reusing existing DIP and DOP, which have already been installed, tested , and provisioned once, would not be recovered again.

4. The fourth major problem with SWBT's cost studies is that the information as provided is insufficient to support their proposed NRCs. Documentation as to work activities, level of technician performing the work, and accurate time estimates have not been provided. Many of the processes and activities are "present method of operation" and do not take into consideration a " future method of operation" utilizing forward looking technologies and processes for accepting and provisioning service orders. Without the use of an electronic interface, Digital Cross-connect Systems (DCS), and IDLC, the use of costly manual processes will continue.

The NRCs as developed by SWBT take into consideration processes and mechanisms which change little from their present mode of operation. For the new entrant this mode of operation will drive the cost of providing service higher, and will most assuredly lengthen provisioning intervals and maintenance repair times. By not taking these considerations into account, the high cost of NRCs would make entry cost prohibitive for the CLEC, and block competition in the local arena. The citizens of Oklahoma stand to suffer.

Finally, Mr. Segura reviewed the portion of the rates contained in the proposed settlement between SWBT, Cox and Staff relating to Non-Recurring Charges. The proposed settlement rates do not represent cost based rates which satisfy either the Oklahoma costing rules (OAC 165:55-17-25 and OAC 165:55-17-27) or the relevant provisions of the Telecommunications Act of 1996. There is no cost basis to simply lop off one-third of SWBT's non-recurring rates without adjusting at the inputs. The proposed settlement rates do not incorporate all of the changes which are necessary in order to render SWBT's cost studies compliant with the Act and the Oklahoma costing rules as outlined in Mr. Segura's testimony. Indeed, the proposed settlement rates do not even incorporate or represent the changes and recommendations of Staff consultants and, therefore, cannot be cost-based even based upon the recommendations of Staff's own consultant. The Commission should not adopt these rates.

Summary of Cross-Examination of Leo D. Segura

Although Mr. Segura was presented for the purpose of supporting adjustments that AT&T made to SWBT's non-recurring cost studies, he demonstrated on cross-examination that he was generally unfamiliar with SWBT's network and the manner in which it operates. He also referred repeatedly to "experts" on an AT&T non-recurring cost team that provided the input for many of these adjustments, but who were not presented for cross-examination at the hearing. He could not explain dramatic differences between assumptions made by AT&T about SWBT's network and contrary testimony by SWBT network witnesses. AT&T simply applied national default values derived by the AT&T team of "experts." These values formed the basis for AT&T's adjustments to the SWBT non-recurring cost studies. Mr. Segura could generally not relate those adjustments to actual experience on the SWBT network. He has never worked on AT&T's team of experts although he worked with the team in developing numerous NRC inputs.

Mr. Segura stated that in the cost study adjustments that he was sponsoring at the hearing, he presented only technical input and only on three types of elements that he could remember. The actual costing presented by AT&T was provided by others, not by Mr. Segura. He provided input on travel costs, cross-connects and digital cross-connect systems. The travel inputs that he provided were for travel in the field.

Mr. Segura provided no technical input to AT&T's proposed adjustments to the loop cost-study. Furthermore, he conceded that he had not installed local loops as part of his background except for coordinating installation of a private line type loop going out to customer locations through central offices; the actual installation of that type loop was done by the local exchange company. Although he represented that he had some experience maintaining a local loop, he conceded that if an error was found in that loop, it was the local company that went out to fix it. Mr. Segura has performed testing on local loops himself.

SWBT called to Mr. Segura's attention that portion of his testimony in which he purports to critique SWBT's cost studies as to its compliance with the applicable pricing and costing standards under the Federal Act and the Oklahoma rules. He was unable to support the conclusory statements in his testimony that SWBT costs do not reflect "least cost most efficient technology," nor was he able to quote a definition of those terms. Mr. Segura did define the terms from a technological standpoint.

With respect to SWBT's OSS systems covered by Mr. Segura's testimony, he conceded that he had no experience developing, maintaining, installing or running OSS systems. He had not used any of the OSS systems now deployed by SWBT other than the TIRKS system. Mr. Segura was unsure of exactly how many OSS systems SWBT now has. He has not reviewed the technical manuals on those OSS systems. He has not visited LEC offices to see how UNE orders would come in for processing.

One of Mr. Segura's objections to SWBT's cost studies is that they provide for manual activities in an environment where, in his opinion, electronic interfaces for ordering services should be used. He stated that he provided technical support for the AT&T position that SWBT's OSS systems would experience a 98% flow-through with respect to unbundled network elements. Nevertheless, he had no knowledge of what interface AT&T proposed to use or might be developing for use with SWBT's OSS systems. He demonstrated limited knowledge of SWBT's existing systems, aside fomr SOAC and SORD. He could not explain the difference between AT&T's 98% flow through assumption and testimony that SWBT often experiences dramatically lower flow-through in its own processes, but he pointed to the testimony of Ms. Ham in Texas where she admitted SWBT achieved a 99% flow through, and has compared flow through rates for other LECs using legacy OSS systems. He was unable to identify any carrier that had experienced 98% flow-through on SWBT's system, and he was unable to specify AT&T's flow-through for ordering non-residential services.

Mr. Segura could not substantiate his assumption that AT&T's national default values were specifically applicable to Oklahoma, but he did state that AT&T's national NRC model did assume legacy oOSS systems, and that SWBT claims to be a leader in OSS technology. He stated that AT&T had assumed these values would apply, but he could point to no method or manner to validate the application of those assumptions to Oklahoma. In any event, there were several areas in which the assumptions of AT&T were dramatically different from the testimony of SWBT with respect to the actual network. For example, Mr. Segura "understood" that SWBT has 100% IDLC and that DCS is in place in Oklahoma. He conceded that his assumptions on OSS flow-through are considerably different from the testimony by Ms. Ham as to the actual SWBT experience.

Mr. Segura stated that AT&T assumes that when it orders UNEs that Dedicated Inside Plant (DIP) and Dedicated Outside Plant (DOP) will be in place and utilized. He could not explain the difference between this assumption and Mr. Deere's testimony that DIP and DOP cannot be assumed to be in place. Although Mr. Segura insisted that DIP and DOP were in place, he could not state a basis for his belief and admitted that he had not inspected SWBT's network to determine whether Mr. Deere's testimony is incorrect. Furthermore, he had no idea what the cost would be to achieve 100% DIP and DOP if SWBT were not already operating at that level.

Mr. Segura's testimony relating to the dispatch times for technicians to go out to the field was based on AT&T's national model default values and on his personal experience. Similarly, with respect to translation times, Mr. Segura admitted that he has never done translation activities for switching and has not looked at the manuals or the technical publications for translations and switches. He simply applied the national default values to these activities to determine the time for each activity.

For example, Mr. Segura referred to AT&T's assumptions that cross-connects would take two minutes each. This assumption was not the basis of any documented study, such as a time and motion study, for cross-connects. The two-minute assumption was based solely on Mr. Segura's opinion and that of other AT&T personnel not testifying at the hearing. Mr. Segura conceded that he had no experience doing cross-connects other than on manual or analog frames.

Mr. Segura conceded that he has never reviewed any of SWBT's technical manuals. Nevertheless, he conceded that it would have been easy to validate the assumptions AT&T made concerning the national default standards by looking at SWBT's technical manuals. He further conceded that he had not reviewed every Bellcore document cited in support of his testimony.

Mr. Segura stated that by eliminating the cross-connect between the loop and the port, the AT&T cost studies were essentially assuming that a loop port combination would be requested. Nevertheless, he was unable to say whether a loop port combination rate was proposed by AT&T and he conceded that he had not seen a cost study for such a combination. He further conceded that a loop port combination would come at some cost but that no such cost was reflected in AT&T's non-recurring cost study. Because AT&T was assuming that the cross-connect was already in place, it eliminated any non-recurring cost of the cross-connect. Nevertheless, Mr. Segura conceded that there would be a cost for installing the cross-connect and that that cost could be modeled and recovered. He could not recall whether the national default models proposed a cost for that cross-connect.

7. Steven E. Turner

Mr. Steve Turner testified on behalf of AT&T. In his testimony, he stated his criticisms of the cost studies presented by SWBT in the area of common and dedicated transport and related areas. In addition, Mr. Turner set forth his recommendations to rectify these problems.

I. SUMMARY OF MR. TURNER'S CRITICISMS OF SWBT COST STUDIES

A. Dedicated Transport

With the Dedicated Transport studies, SWBT failed to include the entirety of circuits as defined in the arbitrated AT&T Interconnection Agreement. This omission of all of the relevant components was the first step in preventing SWBT from performing a LRIC study on Dedicated Transport. SWBT further compounded the problem by using out-of-date ring designs. The ring designs determine the number of nodes on each ring in SWBT's SONET networks. However, SWBT has failed to include any of the "stacked rings" within its network for purposes of the cost studies. This omission has led to an overstatement in cost because SWBT has failed to include those "stacked rings" within its network which would be optimized for high traffic volumes within its metropolitan networks. Further, SWBT's Dedicated Transport cost studies are riddled with problems where SWBT cost analysts did not even adhere to their own cost study procedures. SWBT, based on the service codes to be included in the cost studies, should have included all of the dedicated access transport purchased by IXCs. However, the reality is that SWBT failed to consistently include these circuits in the cost study.

Unrealistic and low actual fill factors are applied throughout SWBT's cost studies in a blatant attempt to significantly overstate the LRIC of the unbundled elements. The 49.44% fill factor for SONET terminal equipment in no way reflects the scalability available to SWBT with this technology. In fact, even SWBT's cost analysts have admitted that their application of the 49.44% factor to the "low speed" side of the SONET terminal equipment was erroneous and that a much higher fill factor should be used in these cost studies. Further, SWBT has identified the objective fill factors that should be used for Dedicated Transport cost studies, but has inappropriately chosen not to use these factors when developing the costs for Dedicated Transport circuits.

B. Common Transport

The methodology whereby SWBT developed its Common Transport cost study is directly affected by the results of the Dedicated Transport cost studies. SWBT has taken the DS1 Dedicated Transport cost study as the input into the Common Transport cost study. The modifications to SWBT's DS1 Dedicated Transport cost study must be carried over to the Common Transport cost study.

C. DCS Functionality and Multiplexing

As related to the DCS Cost Study, SWBT incorrectly calculated the DS1 capacity for the DCS thereby considerably overstating the costs of the DS1 DCS Port and the DS0 DCS Port. It made a similar error in calculating the DS0 capacity of the D4 Channel Bank used in calculating the DS0 DCS Port investment. What is unusual about these errors is that many other areas of SWBT's Dedicated Transport and Multiplexing cost studies, SWBT correctly calculates these same investments.

As related to the Multiplexing Cost Study, SWBT makes the error of double-counting the Sales Tax Factor and Power Investment Factor on various investments included in the cost study. Further, SWBT did not account for the method through which the CLEC will be purchasing and using the Multiplexing element in establishing the fill factor consequently leading to an overstatement of investment.

D. Cross Connects

Briefly, with the exception of loop cross connects with testing, all of the investments SWBT has included in the Cross Connect cost studies are either redundant of investments captured in the elements being cross connected or are totally unnecessary.

E. Signaling Octets per Call Calculation

There are two primary concerns with SWBT's calculations of the signaling octets per call. First, SWBT used data from Baltimore, Maryland to determine its call distribution. These call distributions do not in any way reflect those that SWBT, itself, has told AT&T in negotiations that it experiences in Oklahoma. Second, SWBT has made an enormously poor assumption regarding the feature penetration for Caller ID with Name Delivery that it would be 100 percent in Oklahoma which in no way reflects the current or expected penetration for this feature.

II. SUMMARY OF THE CORRECTIONS TO SWBT's COST STUDIES PROPOSED BY MR. TURNER

A. Dedicated Transport

1. Complete inclusion of Dedicated Transport circuit demand and an update SONET ring inventory.

A LRIC study must include all elements of demand so that the study can capture and include all relevant economies of scale. Conservatively, SWBT likely has excluded as much as 80 percent of the qualifying dedicated transport circuits as defined in the AT&T Interconnection Agreement. By SWBT omitting such a large portion of the dedicated transport demand, the CLECs have been precluded from gaining the economies of scale required for a LRIC study.

The use of an updated inventory of SWBT's SONET rings is important for the Dedicated Transport cost studies as well. First, there are inconsistencies between the ring inventory which comes from either 1994 or 1995 and the circuit inventory that comes from 1996. As a result of these inconsistencies, SWBT excludes valid and important circuit data that diminishes the opportunity for CLECs to receive the scale economies SWBT itself enjoys. Second, SWBT has acknowledged the use of an engineering concept known as "stacked rings" for its SONET networks. Whereas this is an efficient means through which to engineer Dedicated Transport, SWBT has explained that the existence of these "stacked rings" is not reflected in the ring inventory. This omission prevents AT&T from assessing the efficiency of SWBT's engineering of its SONET network and again prevents CLECs from receiving the scale economies that exist in SWBT's network.

To correct these problems, SWBT should be required to provide data to account for all of the circuits that meet the arbitrated definition of interoffice dedicated transport and provide an updated and complete inventory of the SONET Rings within SWBTs network. This data could then be used to calculate the rates for interoffice dedicated transport.

SWBT's failure to include all of the circuits and all of the rings in its cost studies results in overestimating the cost of transport relative to accurate estimates of LRIC. Primarily, the omissions cause economies of scale to be missing from the study. Additionally, the costs are overestimated because they are not studied using efficient network design. Prices based on overstated costs are discriminatory, which is contrary to the Federal Act.

There is no way for AT&T to correct these problems without SWBT's help. Although Mr. Turner gives examples throughout his testimony to illustrate the scope and significance of the missing circuits, there is no way for AT&T to *systematically* generate the circuits that are missing. SWBT would have to generate a new data set based on all of the circuits within its network. AT&T made multiple efforts to acquire this information from SWBT, but was unsuccessful.

However, the solutions summarized below reflect changes that Mr. Turner testified he was able to readily make in SWBT's cost studies and significantly lessen the gap between SWBT's cost estimate for Dedicated Transport and the actual LRIC. Regardless of whether this Commission orders SWBT to produce all of the circuits within its network for a new run through COSTPROG, the following changes should be instituted.

2. Fill factors must be corrected to account for forward-looking cost studies.

The Commission should order a terminal equipment fill factor of 0.85 for use in the transport cost studies. This fill factor reflects three important points: *First*, SWBT, by its own admission, believes that the objective (forward-looking) fill factor for its terminal equipment is 0.85 for fixed investment and 0.92 for plug-in investment. Although SWBT has the ability to apply both of these values to the appropriate investments inside of COSTPROG, Mr. Turner conservatively requested that this Commission adopt SWBT's 0.85 factor to be used in the Dedicated Transport cost studies. *Second*, much of the terminal equipment is scalable. *Third*, when total demand is taken into account, SWBT uses stacked rings for many routes. These last two factors support the use of high objective fill factors.

SWBT should be required to use a fill factor of 0.85 for the fiber investment in Dedicated Transport. This is SWBT's own objective (forward-looking) fill factor for fiber investment. When conducting LRIC cost studies, the forward-looking aspect of this cost methodology requires that an objective fill factor be used as opposed to actual (regardless or whether the actual fill is higher or lower than the objective fill).

3. DS3-DS1 Correction Factor should be implemented to adjust for SWBT incorrectly weighting the DS3 Dedicated Transport Cost Study with DS1 circuit counts.

Again, as Mr. Turner outlined earlier, SWBT went to the unusual step of weighting the cross sections in the DS3 Dedicated Transport cost study with its DS1 circuit counts. What is more, where SWBT did not identify any DS3s in a cross section, it still developed the cost of a DS3 but weighted it with a DS1 circuit count only. To correct this erroneous weighting of DS3 cross section costs with DS1 circuit counts, Mr. Turner underwent a three-step process. First, he matched up each cross section in the DS1 cost study with the DS3 cost study. Second, he took the circuit count in the DS3 cost study and subtracted from it the circuit count in the DS1 cost study. Last, he divided the remaining circuits in the DS3 cost study by 28 (number of DS1s in a DS3). This yielded the number of DS3s in SWBT's cost study. My revised DS3 Dedicated Transport cost study is only weighted with DS3s.

There is one other related concern. In the Interzone DS3 Dedicated Transport Cost Study, SWBT failed to include the actual DS3 circuit counts even using its flawed weighting mechanism. The net effect was that this further exacerbated the weighting problem SWBT has created in the Interzone DS3 cost study in that the actual DS3s received virtually no weighting. Mr. Turner has also corrected this error in his restatement and this largely contributes to the significant DS3-DS1 correction factor for interzone DS3 circuits.

4. Roundup Correction Factors should be applied to account for SWBT rounding up to the nearest mile.

Currently, the Interconnection Agreement between AT&T and SWBT calls for dedicated transport mileage to be rounded up to the next nearest whole-mile. SWBT has not developed its costs in such a way as to reflect the rounding error that is inherent when SWBT always rounds up. Consequently, if SWBT will not agree to drop this provision in the Interconnection Agreement, the dedicated transport cost estimates should be adjusted downward to reflect the rounding error in SWBT's methodology. Otherwise, rates based upon always rounding up will be discriminatory.

B. Common Transport

Because SWBT used the DS1 Dedicated Transport cost study output as its primary input into the Common Transport cost study, the changes that are discussed above for the Dedicated Transport cost studies (with the exception of the DS3 only modification for the weighting problem) also apply in the Common Transport cost study.

C. DCS Functionality and Multiplexing

Two simple changes must be made for DCS Functionality to account for SWBT's understatement associated with the DS1 capacity of a DCS and the DS0 capacity of a D4 Channel Bank. SWBT needs to increase the DS1 capacity for the DCS to 28,672 to be consistent with the remainder of SWBT's Dedicated Transport cost studies and accurately reflect the investment and capacity associated with a DS1 port on a DCS. This modification must be reflected in both the DS1 DCS Port investment and the DS0 DCS Port investment. Further, SWBT needs to increase the DS0 capacity for the D4 Channel Bank to 288 DS0s to be consistent with the remainder of SWBT's DS0 Dedicated Transport Cost Study and the DS1-DS0 Multiplexing Cost Study. SWBT's own investment worksheet explicitly states that the capacity of a D4 Channel Bank as used by SWBT is 288 DS0s. This capacity should be used by SWBT.

There are two simple changes that must be made to SWBT's Multiplexing Cost Study to bring it into conformance with LRIC principles. First, the Sales Tax Factor and Power Investment Factor should only be applied in one place in a properly conducted cost study. Second, when CLECs purchase DS1 multiplexing, they purchase the entire DS1-worth of multiplexing. If the new entrant only uses 3 of the available 24 DS0s on the multiplexer, this low level of utilization and its cost effects are fully borne by the CLEC. The same holds true for DS3 to DS1 multiplexing. Because CLECs are purchasing 100 percent of DS1-DS0 and DS3-DS1 multiplexing, the appropriate fill factor in this cost study is 1.00.

D. Cross Connects

SWBT divided the investment and recurring costs for cross connects into three areas: IDF, testing, and equipment. The IDF investment is entirely unnecessary to provide connections between collocation cages and SWBT's MDF or DSX, as appropriate. Further, placing an IDF between the MDF or DSX and the collocation cage inserts an additional point of failure and can complicate maintenance between AT&T and SWBT. In short, this investment and the recurring cost should be removed from the cost of cross connects. Additionally, the equipment SWBT is including in the Cross Connect cost studies is redundant of equipment that has already been captured in the elements that are being cross connected. The addition of this investment in the cross connect enables SWBT to double-recover its costs, is discriminatory, and does not comply with LRIC principles.

E. Entrance Facilities

AT&T and SWBT arbitrated a definition for Dedicated Transport that clearly includes wire centers owned by AT&T, which means transport to AT&T POPs would be part of this definition. From a technical standpoint, the SWBT facilities that are necessary to provide Dedicated Transport to the AT&T POP are already collocated in the AT&T POP and are the same type of facilities as are included in SWBT's Dedicated Transport cost study.

Entrance Facilities are nothing more than loops that terminate into Dedicated Transport. AT&T and SWBT are in this docket working to determine the appropriate rate for unbundled loops. Once these loop prices are determined, there will be no restrictions that would prevent the unbundled loop from being terminated in Dedicated Transport. Again by definition, unbundled loops go to customer premises which do not include AT&T wire centers. SWBT should not be permitted to add Entrance Facility charges to its Dedicated Transport rates. If AT&T needs access to facilities to a customer's premises, then AT&T will order unbundled loops.

SWBT set the precedent for not charging Entrance Facility charges in SONET based Dedicated Transport. SWBT offers a service called Survivable Transport Network ("STN"). The STN tariff enables telecommunications companies to purchase dedicated DS3s on SONET rings that are defined by the company. The company must specify at least one of its own wire centers as being on the ring for the termination of the dedicated transport. In this tariff there are no entrance facility charges and, by way of comparison, the rate per month per DS3 under this tariff approaches $800.

There could be one exception when Entrance Facilities should apply. If the Dedicated Transport that was ordered by the CLEC went from a SWBT wire center to a CLEC wire center that was not on a SWBT ring, then the assets that would be used to establish this facility could resemble those included in the Entrance

Facility Cost Study. Only in this situation would an Entrance Facility charge apply and this would need to clearly ordered by this Commission.

Mr. Turner also responded to some of the testimony of Commission Staff on the issue of Entrance Facilities. Mr. Turner pointed out that Dr. Paul P. Hlavac provides testimony regarding Dedicated Transport in which he outlines his support of SWBT being permitted to impose Entrance Facility charges in addition to the Dedicated Transport rates. Dr. Hlavac believes that the Interconnection Agreement between AT&T and SWBT does address Entrance Facilities as a rate element. Further, Dr. Hlavac asserts that "the concept of entrance facilities has existed for a long time in the telecommunications industry." Mr. Turner's testimony shows that neither a passing reference to a "SWBT proposal" for Entrance Facilities in an Interconnection Agreement nor the fact that tariffs for Entrance Facilities have been around for a long time are sufficient grounds for this Commission to permit SWBT to recover Entrance Facility charges for all forms of Dedicated Transport. Further, Dr. Hlavac explains that he believes Entrance Facility charges should apply regardless of whether the location to which the transport is being delivered (e.g., an AT&T POP) is on a SWBT SONET ring or not. Mr. Turner's testimony explains in detail why, with modern SONET technology, Entrance Facility charges should not apply when the AT&T wire center is a node on SWBT's SONET network because there is simply no additional cost for providing dedicated transport in such a situation.

Mr. Turner does acknowledge that there are exceptions where Entrance Facility charges could apply. He agreed with Dr. Hlavac that for DS1 Entrance Facilities, the correct Entrance Facility rate "should be devised using parameters as prescribed in the loop cost study." This cannot be the case for DS3 Entrance Facilities for these two reasons which Mr. Turner explained in the rebuttal testimony: (1) SWBT has not conducted anything approaching a valid loop cost study for DS3 Entrance Facilities; and (2) SWBT assumes for the DS3 Entrance Facility cost study that the Local Service Provide (LSP) wire center is always on a SWBT SONET ring. Consequently, Mr. Turner demonstrated that, with such an assumption, DS3 Entrance Facility charges should never apply to DS3 Dedicated Transport.

Mr. Turner's testimony confirmed that, except in very limited circumstances, SWBT should not be permitted to levy Entrance Facility charges on LSPs purchasing unbundled Dedicated Transport. This is because, in most instances, SWBT will not need to deploy Entrance Facilities in order to provide Dedicated Transport and, therefore, there is no additional cost to recover. For example, where an LSP switch is located on SWBT's SONET network, SWBT can and will provide Dedicated Transport without deploying Entrance Facilities (which are comprised of Loops). There are circumstances, however, where the LSP switch is not attached to SWBT's SONET equipment where SWBT might be required to deploy Entrance Facilities to provide transport. This is, however, the only circumstance where Entrance Facility charges should apply. Mr. Turner further explained that even this limited circumstance will provide an opening for SWBT to implement technology in its network that is inferior to what it currently deploys and will deliver substantially inferior service to LSPs and customers in Oklahoma. However, given that there can be a limited circumstance when an Entrance Facility rate element can apply to Dedicated Transport, Mr. Turner merely commented on the adequacy of SWBT's currently proposed rates and charges.

In short, Mr. Turner showed that the rates and charges SWBT is currently proposing for the DS3 and DS1 Entrance Facilities are not consistent with the LRIC cost methodology applicable in Oklahoma.

F. Signaling Octets per Call Calculation

As a general rule, SWBT should be required to use Oklahoma-specific (rather than Baltimore-specific) data for calculating the signaling octets per call. First, SWBT should be required to use the number its has shared with AT&T in negotiations of 40 percent for distribution of intraoffice calls. Second, SWBT should be required to utilize an Oklahoma specific value for the percentage of interLATA traffic that is direct trunked versus tandem trunked. My estimate for this distribution is that 90 percent of the interLATA traffic is direct trunked and 10 percent is tandem trunked. Finally, SWBT should be required to use its own feature penetration rate for Caller ID with Name Delivery (which will be considerably lower than Caller ID by itself) rather than assuming that AT&T and other CLECs will give the feature (and presumably the terminal equipment) away for free.

G. Optical Dedicated Transport

Because SWBT did not provide cost studies for Optical Dedicated Transport (OC3, OC12, and OC48), it was incumbent upon AT&T to provide such a study. Mr. Turner created three studies. In developing these studies, he relied exclusively on input already provided by SWBT either in COSTPROG or with the equipment pricing. In short, he provided Optical Dedicated Transport costs that were as consistent as possible with the underlying approach and equipment prices SWBT would use in developing costs.

III. THE COMMISSION SHOULD NOT APPROVE THE COX/SWBT SETTLEMENT

Finally, Mr. Turner explained that he reviewed the portion of the rates contained in the proposed settlement between SWBT, Cox and Staff relating to Transport and Cross Connects. The proposed settlement rates do not represent cost based rates which satisfy either the Oklahoma costing rules (OAC 165:55-17-25 and OAC 165:55-17-27) or the relevant provisions of the Telecommunications Act of 1996. The proposed settlement rates do not incorporate all of the changes which Mr. Turner submits are necessary in order to render SWBT's cost studies compliant with the Act and the Oklahoma costing rules as outlined in his testimony. The proposed settlement rates do not even incorporate or represent the changes and recommendations of Staff consultants and, therefore, cannot be cost-based even based upon the recommendations of Staff's own consultant. Mr. Turner also pointed out that there is no evidence from which one could conclude that these settlement rates incorporate all of the changes to its cost studies which SWBT has admitted should be made (e.g., to fill factors) to render those studies compliant with the Oklahoma cost rule and the Act. Finally, Mr. Turner explained that he was familiar with the competitive rates for transport that are generally available in the Oklahoma market today. The proposed settlement rates greatly exceed the competitive rates available in Oklahoma. Based upon these observations, Mr. Turner urged the Commission not to accept or approve the proposed settlement rates.

Summary of Cross-Examination of Steven E. Turner

On cross examination by Southwestern Bell, Mr. Turner first stated that rates produced in this docket would need to be "close to" those presented by AT&T in order to be considered cost-based. However, he conceded that cost-based rates could be set at a level which deviated from those proposed by AT&T. He stated that the Commission could evaluate all of the inputs presented by the different parties and conclude that there are legitimate inputs that the parties differ on. He said AT&T may not agree with that decision but that it would not be an arbitrary decision as to what the rates should be. It would be based on cost.

He also agreed that where there are disagreements on inputs between witnesses for Southwestern Bell, Cox and AT&T, then the Commission could resolve those issues and determine a rate which is fair and reasonable. He reiterated that AT&T's cost numbers were not the only correct cost-based numbers.

Mr. Turner confirmed that cost data presented by the parties has covered a variety of input items which are in dispute. The purpose of the hearing, in his estimation, was for each side to present their respective versions of cost-based inputs so the Judge could make a decision and recommend that decision to the Commission. The process of presenting these inputs at the hearing would "create a record of what the cost-base rates were." Mr. Turner explained that one of his criticisms of the proposed settlement was that it provided no traceability bck to inputs and in no way reflects an evaluation of the cost basis for that rate. Mr. Turner also compared the various proposed rates with certain competitive rates with which he was familiar, but did not tie any of this comparison to costs.

8. Marshall R. Adair

Mr. Adair is employed by AT&T as a Manager in AT&T's Network and Computing Services Division. His responsibilities include reviewing and analyzing local exchange carrier tariffs, filings and cost studies. The purpose of his testimony is to present AT&T's non-recurring cost (NRC) studies and results for the Oklahoma cost proceedings.

AT&T submitted, consistent with Oklahoma Rule 165:55-17-25, Forward Looking Long Run Incremental Costs as a basis for setting prices in this proceeding. The cost studies and results sponsored are for those costs which are non-recurring in nature.

Due to a negotiated agreement with SWBT in this proceeding, AT&T used SWBT's cost modeling process for non-recurring costs. AT&T took the non-recurring costs proposed by SWBT in its various cost studies and adjusted the inputs upon which those costs are based to reflect a forward looking least cost most efficient environment.

Using SWBT's filed paper copies of its NRC cost studies, which consist of a series of EXCEL spreadsheets, AT&T duplicated the spreadsheets and the formulae within the spreadsheets which link the input figures to the results figures.

AT&T witness, Mr. Leo Segura, provided the input revisions to the AT&T NRC cost studies for Oklahoma. Mr. Segura's information regarding appropriate inputs is derived from multiple sources. Specifically, AT&T's nationally developed NRC Model, contained the relevant information for appropriate inputs to NRC studies. The AT&T Model (and its inputs) was developed by a team of industry experts utilizing a combination of industry expertise as well as time and motion studies. This team of industry experts includes numerous AT&T personnel with many years of experience in the local telephone industry. This experience includes years of work for various Regional Bell Operating Companies.

Using the inputs supplied by Mr. Segura and the spreadsheets which replicate SWBTs cost methodology, Mr. Adair developed the NRCs proposed by AT&T in this docket. The following is a list of the Long Run Incremental Cost ("LRIC") NRC studies being sponsored by AT&T in Cause Nos. 97-213 and 97-442, respectively:

PUD 97-213

Unbundled Network Interface Device
Unbundled dB Loss Conditioning
Unbundled Local Loop (and work papers)
Unbundled Network Component Loop Cross Connect
Unbundled Network Component Port Cross Connect
Unbundled Analog Line-Side Port
Unbundled Basic Rate Interface Port
Unbundled Primary Rate Interface Port
Manual Call Trace
2-Wire Analog Trunk Port (DID)
Unbundled Digital DS1 Trunk Port
Unbundled Basic Rate Interface Port Features
Unbundled Primary Rate Interface Port Features
Unbundled Local Switching Features
Unbundled Local Switching Centrex-Like Features - Analog
Unbundled Local Switching Centrex-Like Features - ISDN
Unbundled Dedicated Transport
Unbundled LSP to SS7 STP
Signal Transfer Point (STP) Port
LIDB SMS
Unbundled Service Order
Maintenance of Service
Time and Material
Direct Inward Dialing (DID)
Channelized DS1
Dark Fiber Cross Connect
Interoffice Transport DS1
Interoffice Transport DS3
Interoffice Transport Voice Grade
Digital Cross Connect Systems
Basic Rate Interface (CSV/CSD)

PUD 97-442

LSP Simple Service Conversion
LSP Complex Service Conversion
Shared DA and DACC

Finally, Mr. Adair reviewed the portion of the rates contained in the proposed settlement between SWBT, Cox and Staff relating to Non-Recurring Charges. The proposed settlement rates do not represent cost based rates which satisfy either the Oklahoma costing rules (OAC 165:55-17-25 and OAC 165:55-17-27) or the relevant provisions of the Telecommunications Act of 1996. The proposed settlement rates do not incorporate all of the changes which are necessary in order to render SWBT's cost studies compliant with the Act and the Oklahoma costing rules as outlined in Mr. Adair's testimony. Indeed, the proposed settlement rates do not even incorporate or represent the changes and recommendations of Staff consultants and, therefore, cannot be cost-based even based upon the recommendations of Staff's own consultant. The Commission should not adopt these rates.

9. **Richard B. Lee**

Mr. Lee is Vice President of the economic consulting firm of Snavely King Majoros O'Connor & Lee, Inc. Mr. Lee demonstrated that the projection lives proposed by the staff of the FCC and adopted by the OCC last year are appropriate for use in LRIC calculations. He also demonstrated that the lives proposed by SWBT are far too short for use in LRIC calculations and would result in appropriately high costs for unbundled network elements.

LRIC calculations require the use of forward-looking economic lives for plant facilities. Since 1980 the FCC has had as its goal the prescription of forward-looking lives based upon company plans, technological developments and other future-oriented analyses. From Mr. Lee's personal experience as AT&T Regulatory Vice President - Financial and Accounting Matters, he can affirm that the FCC's prescriptions are, indeed, forward-looking. Prior to divestiture, he directed the preparation and presentation of all Bell Operating Company depreciation filings before the FCC, including those of SWBT. From 1984 to 1990, he was responsible for AT&T Communications depreciation filings.

Mr. Lee provided empirical evidence of the FCC's forward-looking orientation. The depreciation reserve percent for all LECs has risen from 18.7 percent in 1980 to 47.1 percent in 1996. Similarly, the depreciation reserve percent for SWBT has risen from 36.5 percent in 1990 to 46.4 percent in 1996. SWBT's depreciation rates have averaged 6.4 percent over the last seven years, while its retirement rates have averaged only 3.3 percent. Lastly, the FCC's prescribed lives for most major accounts are significantly shorter than recent actual life indications.

SWBT's proposed lives are consistent with those it uses for external financial reporting. The FCC has rejected the use of financial book lives for regulatory purposes. The FCC has long recognized that financial book lives are governed by the GAAP principle of "conservatism," which causes them to be biased on the short side.

Mr. Lee rebutted SWBT's contention that prescribed lives have not resulted in economic depreciation. He pointed to LEC market-to-book ratios and purchase premiums as evidence that LEC plant is not underdepreciated. Additionally, the replacement cost of SWBT-Oklahoma's loop plant is significantly greater than its depreciated net book value.

Finally, the "benchmarks" used by SWBT to support its lives are not relevant. Comparisons to 1994 AT&T lives are irrelevant because AT&T had no local loop or end office switching equipment in 1994. Comparisons to the financial book lives of other companies are likewise irrelevant, since financial book lives are biased on the short side, as explained above.

At the conclusion of his direct testimony, Mr. Lee explained that the use of unrealistically short depreciation lives in LRIC calculations would be anti-competitive, discriminatory and, in fact, unlawful.

In his rebuttal testimony, Mr. Lee responded to the recommendations of Robert L. Stright, Executive Vice President of The Liberty Consulting Group, for the depreciation lives to be used in Long-run Incremental Cost ("LRIC") calculations.

Mr. Stright correctly concludes that:

> The proper depreciation lives to be used for calculating unbundled network element prices are those prescribed by the FCC in SWBT's most recent depreciation review.[11]

Despite this conclusion, Mr. Stright arbitrarily recommends different lives for four accounts. He recommends much shorter lives for three of these accounts. As Mr. Lee explained in his direct testimony, unrealistically short lives would result in prices above LRIC.[12] Such prices would impede the development of competition based upon the purchase of unbundled network elements. They would also require ratepayers to make unlawful capital contributions to SWBT.[13]

Finally, Mr. Lee reviewed the portion of the rates contained in the proposed settlement between SWBT, Cox and Staff relating to Depreciation. The proposed settlement rates do not represent cost based rates which satisfy either the Oklahoma costing rules (OAC 165:55-17-25 and OAC 165:55-17-27) or the relevant provisions of the Telecommunications Act of 1996. The proposed settlement rates do not incorporate all of the changes which are necessary in order to render SWBT's cost studies compliant with the Act and the Oklahoma costing rules as outlined in Mr. Lee's testimony. Indeed, the proposed settlement

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[11] Stright Direct, Cause No. PUD 970000213 ("Cause 213"), p. 34; Cause No. PUD 970000442 ("Cause 442"), 26.

[12] Lee Direct, p. 24.

[13] Id., p. 25.

rates do not even incorporate or represent the changes and recommendations of Staff consultants and, therefore, cannot be cost-based even based upon the recommendations of Staff's own consultant. The Commission should not adopt these rates.

D. Evidence and Testimony of Chickasaw, Dobson and Pioneer

Kent Larsen

Mr. Larsen's testimony addressed problems with SWBT's Unbundled Network Element (UNE) pricing and the Long Run Incremental Cost (LRIC) methods used to develop the per-unit cost to deploy a forward-looking network. In order for SWBT's forward-looking LRIC studies to provide valid results, SWBT should be required to forecast forward-looking demand consistent with LRIC study principles. SWBT has misapplied demand units to its calculated costs; double counted certain costs, such as Premium Time-Labor; has inflated the costs of many UNE prices; incorrectly developed certain factors inflating the costs of many UNE prices, including the Common Cost Fixed Allocator applied to all elements and the Building Factor applied to Central Office Electronic elements. Mr. Larsen testified that he believes the threat of windfall profits is almost a certainty if SWBT's demand assumptions and the resulting prices are allowed to stand. SWBT is entitled to recover all of its costs, defined to include a reasonable profit and a contribution to its common costs. Yet, if SWBT's pricing methods are allowed to stand, SWBT stands to recover almost three times its costs based on SWBT's own demand assumptions. LRIC demands a recognition of long run costs and demand and the fact that, over the long run, lumpy, fixed costs associated with large plant deployments are assumed away as variable and avoidable. LRIC also requires SWBT to recognize that the efficient deployment of a competitive network does not contemplate deploying twice as much spare capacity as that which is used today. Combined, these two features of LRIC require SWBT to revise its demand assumptions upward by a substantial margin and reprice its UNEs accordingly. If a rated fill factor for a network element was assumed to be 85%, then a pure application of LRIC principles requires SWBT to calculate demand to equal 100% of the capacity in place, or its rated fill of 85% of the capacity deployed. SWBT is calculating the Common Cost Fixed Allocator on one basis and then (over)applying it on a different basis, yielding an over-recovery of these costs. Proper application of the factor to only the expense portion upon which it was based yields an accurate forecast of the common costs in the ACES program. Mr. Larsen recommended that SWBT be prohibited from charging a premium rate in its interconnection agreement. It is Mr. Larsen's opinion that booked building costs are high in comparison to other large LEC study areas and therefore unsuitable as a starting point, that SWBT has not properly satisfied its burden of proof supporting its 2.57 composite CC to BC ratio for buildings and that there are additional computational errors, all of which combine to overstate SWBT's building costs.

The Commission should require SWBT to support its inclusion of excessive book cost as an efficient starting point to project forward-looking costs or adjust the starting point to a more reasonable amount. Mr. Larsen recommended that SWBT should adjust its building replacement costs to reflect that a forward-looking, efficient deployment of modern, digital switches would assume a smaller, properly sized building. Mr. Larsen recommended that the Commission require SWBT to demonstrate similar rigor defending its assumptions regarding its building costs or should require SWBT to utilize 19.7%, the weighted average of building costs to switching as shown on Attachment 1 and cited in my prefiled testimony.

The corrections recommended in his prefiled testimony should reduce building cost to a more reasonable level and thus reduce SWBT's UNE prices. Mr. Larsen recommended that the Commission require SWBT to recalculate its Buildings factor and all resulting UNE elements which include the Building factor as a component of their cost.

Mr. Larsen recommended that the Commission not approve SWBT's LRIC cost studies unless the problems raised in his prefiled testimony and the problems identified by AT&T's testimony and analysis are remedied.

E. Evidence and Testimony of The Liberty Consulting Group

1. Robert L. Stright

Mr. Stright is an officer and owner of The Liberty Consulting Group *(Liberty)*. The Staff of the Oklahoma Corporation Commission hired Liberty to assist in the review of testimony and cost studies supporting proposed permanent prices for the unbundled network elements of Southwestern Bell Telephone Company (SWBT). Mr. Stright's testimony summarizes the results of Staff's review of the cost studies that SWBT and AT&T presented in support of their proposed prices in this proceeding. The testimony lists and supports those areas where adjustments should be made to make the results of SWBT's cost studies more appropriate for use as a basis for establishing those prices.

Mr. Stright's testimony in PUD 97-213 provided a summary of (1) Liberty's qualifications to perform the review of cost studies, (2) the process Staff used to review the cost studies, (3) the relationship among the three Staff witnesses, and (4) the network elements that are to be priced in this proceeding. The focus of his testimony was on (1) the common aspects of the cost studies, and (2) the pricing of unbundled loops.

Many of the cost studies used to support price proposals used some of the same general inputs, factors, and methods. In general, these common inputs and factors applied to elements that had a capital investment and for which there were recurring prices. These common aspects included: (1) the use of a cost of capital to determine part of the monthly expense associated with capital investments and to perform present value analyses, (2) the use of economic lives of various equipment categories to determine the depreciation expense for various investments, (3) the use of the CapCost model to determine the recurring costs associated with capital investment, (4) various factors used in either the CapCost or ACES model, and (5) the application of a common overhead factor to calculated costs to determine proposed prices.

With regard to the economic lives used to determine the period over which depreciation of capital assets will be recovered, Staff believed that, in general, the lives prescribed by the FCC should be used in the pricing on unbundled network elements. SWBT proposed economic lives that, in the areas of electronics and outside plant, were much shorter than those used by the FCC. Staff believed there are reasons that lives could be shorter in the first of these areas but not the second.

Staff found that the parties did not use the CapCost model appropriately to determine the rate at which depreciation will be recovered. More specifically, the way the parties ran the model added new investment each year even before the end of the economic life of the asset. Staff recommended that the CapCost model use a rectangular survivor curve, which will ensure that the correct amount of depreciation is recovered.

Staff recommended changes to factors used in the cost studies. For example, Staff recommended that the inflation factor should not be used since there was no accounting for an offset to inflation from productivity gains. Also, Staff calculated a building factor that was lower than that proposed by the other parties. The way the other parties calculated the building factor would have the current number and size of SWBT's buildings reproduced, which is not a forward looking assumption.

Finally, Staff calculated a common cost factor that was different than those used by the other parties. Since the common cost factor is applied to costs that include a return on investment and income taxes, it is more appropriate to use revenues as a basis for the factor as opposed to the expenses basis that SWBT used.

With regard to the loop cost studies, Staff recommended changes in three areas. First, Staff calculated forward-looking fill factors for the copper distribution and feeder portions of the network. Fill factors are used to determine the amount of spare capacity that should be included in the price of unbundled loops. SWBT used current fill factors which had evolved over the years as opposed to factors that could be considered the most efficient and forward looking.

Second, Staff recommended that a correction to the loop cost studies should be made because actual loop lengths were not used in the loop cost model. SWBT's model used length band midpoints and this had the potential to cause a small error in the calculated loop cost. Finally, Staff recommended a correction factor be applied to the costs of 4-wire loops because those loops tend to be used in business applications, and businesses may have, on average, shorter loop lengths than residential 2-wire loops.

Mr. Stright's testimony in PUD 97-442 provides a summary of (1) Liberty's qualifications to perform the review of cost studies, (2) the process Staff used to review the cost studies, and (3) the items that are to be priced in this proceeding. SWBT and AT&T sought a determination of prices for: compensation for delivery of traffic, directory order and delivery, a variety of items relates to 911, directory listing information, customer change charges, operator service and directory assistance branding, operator service and directory assistance service rate information, operations support systems access, interim number portability, and operator service and directory facilities.

Some of the proposed rates and some of the inputs and assumptions used in the cost studies for this proceeding were identical to unbundled network elements whose prices will be determined in PUD 97-213. Therefore, Mr. Stright repeated some of his testimony from that Cause in this proceeding. Moreover, Mr. Stright attached the testimony of Thomas M. Krafcik and Paul P. Hlavac from PUD 97-213.

For most of the items to be priced in this Cause, SWBT determined its proposed prices on the basis of costs. However, for a few items, SWBT used what it called market-based pricing. Staff does not agree with this method of pricing. The parties call the items that are to be priced in this case "services and functions necessary for interconnection." The relief that the parties jointly seek in their application appears to identify these items as something other than unbundled network elements. Nevertheless, many of these items have the characteristics of unbundled network elements. It would be consistent with the Telecommunications Act of 1996 ("the Act") to include them as unbundled network elements and it is difficult to distinguish the services that are at issue from unbundled network elements. However, even if the items are not unbundled network elements, the way that the parties have treated them means that the same pricing standard should apply to them under the Act. Section 252(d)(1) of the Act imposes a cost-based pricing standard on both interconnection and unbundled network elements. The parties' joint application called the items of this case services and functions necessary for interconnection. Section 252(d)(1), which the parties also cite as conferring on this commission the jurisdiction to decide their joint application, makes no distinction in the pricing basis that applies to interconnection and to unbundled network elements. Therefore, the pricing standards that were used in PUD 97-213 for network elements are equally applicable in PUD 97-442. The parties agreed in PUD 97-442, as did the Staff, that long-run forward-looking costs should serve as the basis for pricing. So should those costs serve here to guide the Commission's determinations of the prices for the items at issue here.

With regard to the specific pricing in this proceeding, Staff calculated prices or requested that models be run with changed inputs and assumptions to determine new prices. For the item concerning provision of directory assistance listings, Staff recommended that either a completely new cost study be undertaken that would better reflect SWBT's investment in the directory assistance database, or that a specific rate, calculated using AT&T's method, be adopted. For the service related to non-published number messaging service, Staff recommended a price of $0.00, because it is a reciprocal rate and there is not likely to be much of a imbalance in the parties' billings. Staff concluded that there was no need to determine a price for interim number portability.

2. Paul P. Hlavac

Dr. Paul P. Hlavac is a consultant with The Liberty Consulting Group. His testimony summarized Staff's conclusions regarding costs and prices for unbundled network elements related to local switching, ports, and tandem switching; dedicated transport; common transport; Signaling System 7 *(SS7)*; Operations Support Systems *(OSS)*; and most of the elements for which SWBT has proposed pricing on an Individual Case Basis (ICB). These ICB elements included some types of dedicated transport, customized routing, call blocking/screening, Advanced Intelligent Network *(AIN)*, performance data, and dark fiber.

With regard to switching, Staff recommended changes to the cost studies related to the discount from the vendor list price that should be used in the cost model. Staff recommended that the discount be increased to reflect prices that will be forward-looking. Staff also thought the discount should consider the minimized cost over the life-cycle of the switch.

With regard to dedicated transport, Staff recommended changes, such as those related to the fill factors, so that the cost studies would reflect forward-looking costs. Utilization was also an issue in the cost studies related to signaling elements.

SWBT proposed "individual case basis" pricing for some elements. Some types of elements or activities are so variable in nature that it is not reasonable to develop meaningful prices through a cost study approach. In some cases, the facilities or activities involved are complex or do not follow routine patterns or sequences. In other cases, they are provided or performed so infrequently that it is impracticable to price them through cost studies. In any case, the unique aspects of providing a certain element or of performing a certain activity need to be considered in determining an appropriate cost.

For some elements, such as the provision of performance data, Staff agreed that ICB pricing was appropriate. For others, such as dark fiber, Staff recommended that cost studies be performed and prices determined.

3. **Thomas M. Krafcik**

Mr. Thomas M. Krafcik is a consultant with The Liberty Consulting Group. His testimony summarized the results of Staff's review of non-recurring cost studies that SWBT submitted in support of its proposed prices in this proceeding. His testimony also addressed costs associated with: Line Information Data Base Validation, Calling Name Delivery Service, Toll Free Database, Operator Services Call Completion Services, Call Branding, and Service Rate Information.

Staff had several concerns that affected the costs of various non-recurring elements. These concerns dealt with: (1) the support asset loading factor that SWBT uses to develop labor rates; (2) SWBT's inclusion of incentive payments in its calculation of labor rates; and (3) SWBT's activity-time estimates. In addition, for particular studies, Staff had concerns about (1) SWBT's assumptions regarding forward-looking technology and processes; (2) SWBT's computer and procurement costs; and (3) SWBT's proposed disconnect charge.

With regard to the support asset loading factor, Staff's recommended changes were made to ensure that certain costs were not included twice in various aspects of SWBT's cost studies. One of the more significant concerns with the non-recurring cost studies dealt with the time estimates provided for various activities required to provide network elements to the CLECs. Neither AT&T nor SWBT provided solid support for their time estimates. Staff provided recommendations that used the estimates of both parties.

There were several non-recurring cost studies for which SWBT did not use forward-looking technologies and methods. For example, SWBT did not assume the complete mechanization of service orders. Staff recommended changes to the inputs and assumptions used in the cost studies to correct for this aspect.

Staff recommended numerous changes to the large number of non-recurring cost studies. In general, these changes were made to prevent double counting, to provide for a separate disconnect charge, and to make the studies reflect efficient, forward-looking costs.

III. Findings of Fact and Conclusions of Law

A. Introduction

On June 12, 1998, the ALJ issued his oral recommendation in Cause Nos. 97-213 and 97-442 ("the cost docket"). After considering all of the evidence presented in the docket, including the testimony of Liberty Consulting ("Liberty"), the ALJ recommended approval of the stipulation in PUD 97-213 ("the stipulation") reached between the Staff and Cox, and which SWBT agreed not to oppose if adopted *in toto* (*See* Tr., June 12, 1998) and the stipulation proposed by Staff in PUD 97-442 which SWBT agreed not to oppose if adopted *in toto*.[14]

The ALJ concluded that the stipulated rates are based upon an analysis of the costs presented by the parties in this proceeding and are thus, cost-based and clearly supported by the evidence. In so finding, the ALJ noted that the performance of cost studies is not an exact science, but instead is a process which requires substantial adjustments and estimations. He also found that Cox's testimony should be given more credence than that of AT&T with respect to the rates to be adopted in this docket since Cox is a facility-based provider that has already entered the market, is currently in business in Oklahoma, has collocated with SWBT in Oklahoma and is currently passing orders. Conversely, AT&T is not currently in business in Oklahoma and recently indicated in Cause No. PUD 97-560 that it would not enter the market in Oklahoma at any time in the near future, if ever. Based upon Cox's testimony, the ALJ concluded that Cox, and any other facilities-based competitive local exchange company, could enter the marketplace and become a competitor in Oklahoma with the rates proposed in the stipulation. *Id.*

The ALJ further concluded that even if considered, the appropriateness of which is discussed below, Liberty's testimony supports the reasonableness of the stipulation. The ALJ found that this entire docket has evolved through various stipulations, including a stipulation under which the parties agreed to use SWBT's cost models, a non-unanimous stipulation reached between SWBT and AT&T (and which Staff agreed not to oppose) regarding the acceptance of a 10 percent weighted average cost of capital and finally, the stipulation reached between Cox and Staff regarding the rates for certain SWBT unbundled network elements and services. The ALJ concluded that Liberty's testimony supports the stipulation reached by virtue of the fact that in some areas, Liberty elected to simply

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[14] Most of the discussion regarding the "stipulation" herein pertains to the PUD 97-213 stipulation. However, many of the findings of the ALJ regarding the PUD 97-213 stipulation apply with equal force to the PUD 97-442 stipulation.

average the difference between the AT&T and SWBT positions or accept one rate over the other as being more reasonable if the rate fell closer to the range anticipated by Liberty. Following is a more detailed explanation of the ALJ's recommendation with respect to the evidence presented in this docket which clearly supports his position that the stipulated rates in both PUD 97-213 and 97-442 should be adopted *in toto* by this Commission. *Id.*

B. Liberty Testimony

On April 14, 1998, in Order No. 422255, the Commission directed the ALJ to reopen the record for the submission of testimony and exhibits that had been prefiled by Liberty, but which had not been offered into evidence by Staff during Staff's portion of the case (because Staff had signed and announced support of the stipulation). Thereafter, at a prehearing conference on April 28, 1998, which was continued to May 4, 1998, the parties each agreed to waive their right to cross-examine Liberty Consulting's witnesses and for Liberty Consulting's testimony to be entered into the record pursuant to Order No. 422255, thereby eliminating the need for Liberty Consulting's witnesses to appear live at the hearing. The parties further agreed to revisions and additions to the procedural schedule for the limited purpose of addressing any specific issues raised by the admission of Liberty's testimony into the record. (*See* Order Revising Procedural Schedule, Order No. 423165, entered on May 15, 1998). Pursuant to the revised procedural schedule, the parties were permitted to file briefs and affidavits regarding the impact, if any, of Liberty's testimony on the outcome of this docket. AT&T, Cox and SWBT submitted briefs regarding the impact of such testimony. After review of the briefs and affidavits in support thereof, the ALJ finds that as a matter of evidentiary law, Liberty's testimony was not properly placed in the record for the following reasons.

First, at the hearing on the merits, Staff announced that it had proposed and signed a nonunanimous stipulation and consistent with such stipulation, it was exercising its right not to introduce Liberty's prefiled testimony into the record. Subsequently in the hearing, Staff counsel announced that he was asked by his client to move for the introduction of that testimony after all, but the motion was rejected by the ALJ because the Staff had already announced its decision to waive its opportunity to present testimony and evidence. The hearings concluded and the ALJ notified the parties by telephone that he was recommending approval of the Cox/Staff stipulation and directed the parties to prepare a draft written recommendation. As that was being prepared, during deliberations, the Commission voted to require the introduction of the Liberty prefiled testimony into the record.

Liberty was retained by and worked for the Staff, but Staff elected instead to develop and propose the rates set forth in the stipulation and to sign such in full support of it.

For these reasons, the ALJ concludes that the introduction of the Liberty testimony into the record has no impact on this proceeding. However, even *assuming arguendo*, that it does have an impact, its impact is that it clearly supports the stipulation reached between Staff and Cox, as discussed *infra*.

C. Cost Based Rates

There has been considerable testimony concerning cost-based rates and whether the various cost proposals satisfy the Commission cost standard for long run incremental costs ("LRIC"). (*See* OAC Rule 165:55-17-25). The term "cost-based" arises from the requirements of Section 252 of the Telecommunications Act of 1996 ("the Act"), which is a pricing rule for UNEs. Specifically, Section 252 obligates the Commission to determine "just and reasonable rates" that are based on cost, are nondiscriminatory and which may include a reasonable profit. With the stipulation, the same issues are raised again: do the stipulation rates satisfy the cost-based rules? The ALJ concludes that any price structure which uses cost information as the basic structure, as the Staff's proposed stipulation has done, is "based on cost," though many such price structures will not be "equal to" cost.

A number of parties presented cost testimony and rates which each asserts satisfies the Commission long run cost standard. (*See, e.g.*, Testimony of Barry Moore for SWBT, L. Segura for AT&T, Dr. Collins for Cox and others.) The range of costs results was considerable. (*See* Moore's Schedule 6, p. 4 and compare with Turner's SET-3, p. 4, or *see* Smith's Schedules 2, 3, 4 and 5 and compare with Petzinger's CEP-2.) The fact that must be kept in mind, however, is that the Commission's ultimate obligation is to determine "just and reasonable rates." This standard is well known to the Commission and has traditionally been the rate standard for utility rates.

The term "based on cost," on the other hand, is nowhere defined in the statutes, the Commission's rules or by the parties. In its most natural meaning, "based on" merely designates something upon which another thing is built upon or supported; it is a starting point, not an end in itself. It need not, and does not, mean that rates must equal any particular cost and indeed the use of the terminology "just and reasonable" would be superfluous if rates were merely to equal costs. The terms "just and reasonable" are well known and understood in Commission rate making terms and historically have been applied, often and usually with a basic foundation on cost, at rate levels that sometimes deviate above and below cost when the "just and reasonable" objectives are taken into account. Several witnesses have agreed, of course, that rates may indeed deviate from a strict "rate equals cost" criteria. (*See, e.g.*, Tr., March 12, 1998, pp. 128-129 (Klick).) The ALJ would note that in making his findings, he gave some consideration to the Affidavit of Charles H. Cleek, which showed that had SWBT's cost studies been adjusted for reasons suggested by AT&T (e.g., relating to fill, depreciation, the cost of money, the common cost allocator, time adjustments, utilization, etc.), then the rates proposed by SWBT would have been reasonably close to the stipulated rates.

Furthermore, the use of the "reasonable profit" term, as part of the rate objective, also reinforces that the "just and reasonable" rate need not be equal to any specific cost results in all cases.

The stipulation reached between Cox and Staff in PUD 97-213 and the stipulation proposed by Staff in PUD 97-442 present certain rate levels that do not strictly equal any cost proposal of any party but which, in total, fall well within the ranges of the various proposals; at times below what SWBT might have proposed yet above what AT&T might have proposed. (*See* and compare stipulation with, e.g., Moore's Schedule 2 and Zubkus' JAZ-1.) In cross-examination, AT&T suggested that this resulting rate stipulation must fail simply because it does not equal any parties proposal on costs or is not strictly determined by mathematical adjustments to any cost proposal. (*See, e.g.*, Tr., March 11, 1998, p. 14 (Collins); March 9, 1998, pp. 47-49 (Auinbauh), and March 12, 1998, p. 6 (Flappan).) The ALJ disagrees. The quantity and quality of the evidence is amply sufficient to determine that the stipulation rates are based upon costs. Principally, AT&T argues that the only way to assure "based on costs" would be for the stipulation to have made specific adjustments to SWBT cost studies of the type recommended by others in order, it appears, to have a level of exactness to base the cost/rate equation. (*See* Tr., March 12, 1998, pp. rk 19-20 (Flappan); March 12, 1998, pp. rk 120-121 and 127-128 (Klick); and March 11, 1998, p. lw 261 (Turner).)[15] For this reason, rates may deviate from exact cost equally and still may be said, as is the case here, to be "based on cost."

In addition, the ALJ concludes that AT&T's assertion that the stipulations must fail because it does not equal any party's proposal on costs is without credibility given the fact that AT&T reached a nonunanimous stipulation as to the cost of capital with SWBT based upon the same principle that the Cox/Staff stipulation was premised on. As with nearly all of the rates proposed by Staff in the stipulation, the cost of capital contained in the AT&T/SWBT stipulation falls between what was proposed by SWBT and Cox, yet there is no claim by AT&T that the number agreed to is not cost-based. In fact, in that stipulation, AT&T specifically agreed "that the cost of capital agreed to ... satisfies the costing standards set forth in Section 252 of the federal Telecommunications Act of 1996 and is a forward-looking cost of capital."

The ALJ concludes that the fact that most of the rates in the stipulations fall between the rates proposed by AT&T and SWBT do not render them unlawful. There remains substantial evidence in the record and this in no way invalidates the fact that the stipulated rates are "based on cost." The Commission, similar to the responsibility of a jury in a civil case, has the discretion to adopt a position in the "middle" of that which is proposed by the parties. When a jury elects to award damages "in the middle" of what has been proposed by either side, the jury's decision will not be thrown out by the court simply because of this. *See, e.g., Allen v. City of Tulsa*, 345 P.2d 443, 447 (Okla. 1959). The Commission has no less freedom and has never before restricted itself to such a simplistic approach in rate setting and the ALJ concludes that it should not do so now.

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[15] *See In re Valliant Tel. Co.*, 656 P.2d 273, 277 (Okla. 1982), *citing Community Natural Gas Co. v. Corporation Commission, Okl.*, 182 Okl. 137, 76 P.2d 393 (1938), in which the Oklahoma Supreme Court noted: "The Corporation Commission is not limited to any particular theory or method in fixing rates and, needless to say, the establishment of a rate is not a matter of exact science or capable of precise mathematical calculation." *See also Turpen v. Oklahoma Corporation Commission*, 769 P.2d 1309, 1334, fns. 72 and 73 (Okla. 1988).

D. LRIC (Recurring Costs)

All parties have proposed LRIC recurring costs that essentially are the result of (1) determining the investment per unit; (2) adding certain operating expenses such as maintenance, etc.; and (3) determining the capital costs by application of a CAPCOST model which accounts for depreciation, cost of capital, and tax. (*See* Conwell Direct, Ex. 1.) The focus of the hearing was on the inputs which should be applied to this general recurring cost formula in SWBT's models.

Three principal UNEs appear to have garnered most of the attention from the parties: the loop, local switching and transport. The numerous other UNEs are, of course, of importance, but for purposes of this Report, concentration and comment about these UNEs amply illustrates the whole of the UNE presentations. For purposes of the hearings, the parties agreed that SWBT models would be used and that the focus of the proceeding would be on inputs only. (*See* Flappan Direct, p. 6.) Further, SWBT and AT&T reached a stipulation (which Staff agreed not to oppose) that the cost of money should be 10 percent, a cost within the range proposed by the parties and which, based upon the evidence of each party (e.g., Dr. Avera and Dr. Collins), the Court finds to be a reasonable basis for decision and within a reasonable range. The debate about other inputs was lively and helpful as it bears upon the stipulation. Since the stipulation rates are, on the whole, higher than AT&T's proposal, I will focus upon those AT&T cost proposals initially.

1. Loop

For loop, using the 8db for discussion, AT&T argued that SWBT's model inputs contained numerous errors. Principally, Mr. Zubkus asserted that the loop length was incorrectly chosen, that the cost of the NID was incorrectly calculated, that the FDI was overstated and that SWBT failed to correctly include all forward looking technology such as IDLC, and fill/utilization. (*See* Tr., March 12, 1998, p. rk 68 (Zubkus).) AT&T's cost proposal was, therefore, considerably less than SWBT, but closer to the stipulation rate. (*See* and compare stipulation and Flappan Ex. RPF-9.) SWBT responded that the use of actual length has minimal impact, as does the use of the midpoint of the Kf bands. Furthermore, the agreement between the parties was to use the SWBT model which is based upon the Kf process. The evidence of Mr. Moore seems correct in this regard. (*See* Moore Rebuttal, p. 4.) Further, SWBT noted that the NID input adjustment by Mr. Zubkus (50 percent) was purely hypothetical, as Mr. Zubkus seemed to agree, but that the actual impact would again be marginal. (*See* Moore Rebuttal, p. 13.) For FDI, AT&T argued that 25 percent of the FDI in Mr. Moore's study was not in place and adjusted the investment downward to reflect current FDI conditions. On the other hand, SWBT asserted that the forward looking considerations should prevail. (*See* Moore Rebuttal, pp. 9-11.) AT&T's position, in this FDI proposal, has merit. However, Mr. Zubkus seemed to agree that the impact of the adjustment is slight. (*See* Tr., March 12, 1998, p. rk 87 (Zubkus).)

For Loop IDLC, there was considerable discussion whether AT&T's assumption was correct or excessive. (*See* and compare Zubkus, Direct, pp. 30-31 with Moore Rebuttal, pp. 13-14 and Deere Direct, pp. 18-20; and *see* Tr., March 12, 1998, pp. 95-107.) The 100 percent proposal of AT&T vastly exceeded the actual utilization in the network today and thus, had a significant impact on costs. In Mr. Deere's estimation, it is unlikely from an engineering standpoint that such amount of IDLC will ever be practical and certainly not for UNEs. (*See* Moore Rebuttal, p. 14.) As discussed in the "fill" issue, the high utilization Mr. Zubkus proposed does not represent the network that will be unbundled by SWBT and used in providing of UNEs to AT&T as is required by Section 251 of the Act. For that reason, Mr. Zubkus's proposal must not be given significant weight.

"Fill" received considerable discussion. Indeed, it may be the single most influential input to loop investment. It impacts the cost because of its direct affect on investment and the lower the fill percentage, the higher the unit cost of investment. The disagreement is limited, for loop, to distribution cable (AT&T agreeing with SWBT for feeder loop fill). AT&T's fill proposal was roughly 75 percent higher than SWBT's proposal (e.g., 30 percent vs. 50 percent), which was based upon the actual current fill in the network and which SWBT indicated would likely be the forward looking distribution fill. (*See* Moore Rebuttal, pp. 5-7 and Dr. Lehman Rebuttal, pp. 24-27.) Distribution cable has certain characteristics that result in the lower fill than is experienced in feeder, characteristics such as lumpy investment, the need to anticipate the future without later disruption of property, the movement of population, etc. Mr. Moore, Dr. Lehman and Mr. Deere discussed some of these characteristics. Particularly, Dr. Lehman pointed out the dynamic affect the network has on fill and that, as observed in the long distance market, competition is not likely to result in greater fill utilization. (*See* Lehman Rebuttal, pp. 26-28.) Dr. Lehman also noted that it is not consistent with long run theory that new technology be "immediately" input to network, particularly if the cost to gain that efficiency is not included as well. (*See* Lehman Rebuttal, pp. 4-5.) Thus, merely because AT&T may suggest that some new technology (e.g., IDLC) might be more "forward looking" does not translate *ipso facto* to inclusion. Mr. Zubkus, on the other hand, proffered that based upon his experience, he would expect it to grow over time and reach 50 percent, although the factual basis for this is lacking, based only upon his "experience" and opinion. Again, the Act requires SWBT to unbundle its existing network, not some superior quality network. *See* Section 251 of the Act; *Iowa Utilities Board v. FCC*, 120 F.3rd 753, 812-813 (8th Cir. 1997). A reflection of fill well beyond what is currently available and used by SWBT to provide retail services essentially asks SWBT to provide superior quality facilities to AT&T. For these reasons, the ALJ concludes that AT&T's loop cost proposal is to be given little weight, but not dismissed entirely. It forms the very lowest boundary of cost.

In setting the recurring rates contained in the stipulation, Staff concluded that the appropriate rates for 2-wire unbundled loops should be set at $13.00 for urban areas, $15.00 for sub-urban areas and $35.00 for rural areas. These proposed rates are much closer to the rates AT&T proposed in this docket than the rates which were put forward by SWBT. In fact, the urban loop rate contained in the stipulation is approximately two thirds of the rate SWBT requested. (*See* Affidavit of Charles Cleek.)

Cox witness Dr. Collins, in support of the stipulation, noted that many parties had proposed cost-based rates and that each expert was prepared to argue (and did) that their input suggestions were reasonable. Specifically, Dr. Collins testified that the input data to the cost studies presented by the various parties are subject to speculation, are forward looking and have been developed as a result of estimates of time, cost, inflation rates and other subjective estimates. As a consequence, he concluded that a reasonable outcome of the cause could be the rates that are in the stipulation which he considers to be cost-based. (*See* Tr., March 11, 1998, p. bwm-11 (Collins).) The decision is which of the proposals are "more reasonable" within the wide range provided. (*See* Tr., March 11, 1998, p. bwm 16 (Collins).) With respect to the loop issue, the ALJ finds that the costs are probably higher than AT&T has proposed for the above reasons. But, based upon other factors in issue, such as depreciation and cost of money, the costs are probably not as high as the costs SWBT proposed. This continual balancing and weighing process runs though out all of the various UNE cost proposals. But, as Dr. Collins noted, this does not mean that the rates in the stipulation are not based upon cost; rather that the range of potential costs amply support the stipulation positioning of rates. Moreover, Dr. Collins, on the basis of Cox's cost proposal, found that the stipulation rates for loops were within the range he supported with his own cost adjustments to SWBT results/inputs. (*See* Tr., March 11, 1998, pp. bwm 20-24 (Collins).) The ALJ gives considerable credence to this testimony, particularly since Cox states that at these rates, it, along with any other facilities-based CLEC in Oklahoma, can fairly compete and enter the market in competition with SWBT. (*See* Tr., March 11, 1998, Bwm 12 (Collins).) For an abundance of reasons stated above, the stipulation for loops (of all kinds) is therefore supported by costs and for that reason, independently, is just and reasonable.

The above holds true for other loop proposals (e.g., BRI, etc.). The ALJ has read the testimony, sifted through the contentions and reviewed the various cost proposals in the record. Future delineation of each individual disagreement would burden the record unnecessarily (except as discussed with some cost characteristics below). Suffice it to say, it is the ALJ's opinion that all of the cost proposals are within the range of the rate stipulation and therefore the rates are reasonable. Little time is devoted in this opinion to these secondary UNEs because the parties themselves concentrated mostly on the 8db loop. However, since the recurring costs for each are subject to the essentially identical cost adjustment questions, the resolution of the 8db loop applies in equal force to all.

2. Local Switching

There a several points of contention in the local switching cost studies, including switch discounts, demand, treatment of non-recurring costs, feature related hardware and startup. However, a principal contentious issue was the discount applied in the SCIS model. (*See* Petzinger Direct, pp. 8-20, and compare with Smith Rebuttal, pp. 6-15.) SCIS models the investment cost/loop for digital switches SWBT proposes to use in Oklahoma, specifically Lucent and NorTel. The model input includes the current list price and the effective discount given the SWBT by the switch vendors. The discounts, as reflected in the cost studies, are considerable. However, AT&T claimed the discounts should be more, arguing among other things, that because of the recent PacTel merger and the on going contract negotiations, the discount is likely to be more in the near future. (*See* Petzinger, p. 10.) SWBT disagreed, pointing out that discount is only one aspect and list price is equally as important. Discounts and prices differ by manufacturer and tend to be customer unique. (*See* Smith Rebuttal, pp. 6-7.) At this point, such discussions seem speculative and, therefore, untrustworthy for use in costing, particularly since one would also have to speculate about the future list prices as well (which SWBT points out have historically been increasing). (*See* Smith Rebuttal, p. 20; Tr., Mar. 11, 1998, pp. 46-47 (Smith).) Since the trend in list price has been upward historically, there is no reason to assume, absolutely, that investment per loop is more likely to decline resulting in overall lower costs, although the ALJ does not discount that as something which could happen in the future. However, for the foregoing reasons, the discount in the current contracts and current list price should be used. This will match two known variables that can be validated and have known parameters. The contract also provides different discounts for initial installations and growth additions. AT&T argued that all the current switches should be "flash cut" and that only the initial discount should apply; SWBT used a mix of growth and initial which better represents the practical basis for switch placement. (*See* Smith Rebuttal, pp. 8-9 and Lehman Rebuttal, p. 34.) The life cycle approach appears to better represent the nature of the SWBT network that will be unbundled. (*See* Smith Rebuttal, pp. 7-9.) For this reason, the ALJ concludes that flash cut proposals are not reasonable.

Other disagreements about Getting Started Investment ("GSI") and spare were of interest, but were adequately addressed by the models which all of the parties agreed to use, because such models treat GSI and Spare different than AT&T would suggest by using SCIS. (*See* Smith Rebuttal, p. 22.) Whether some aspect of this issue should be considered non-traffic sensitive, or not (e.g., Smith Rebuttal, p. 25) or whether spare should be separately accounted for as SWBT proposes, all are part of the Model platform that SWBT has proposed and not strictly an input issue. (*See* Smith Rebuttal, p. 22, and Issues Matrix S8.) AT&T's 50 percent adjustment also seemed to be speculative. Moreover, with respect to spare, SWBT adequately indicated that its inclusion in its model was separately confirmed by inventory of the central offices involved. (*See* Smith Rebuttal, p. 22.) The questions concerning GSI were material but, given the stipulation, need not be resolved except to note, as is true elsewhere, the stipulation rates are within the range of costs proposed.

Demand was another debated issue. AT&T suggested that the demand should be "forward looking" by which it meant that current demand should be increased to account for future usage. (*See* Petzinger, p. 18 and Flappan, p. 64.) SWBT's response was that if higher demand was used, more investment would need to be included (which AT&T did not account for) since investment has demand sensitive attributes. (*See*, Smith Rebuttal, pp. 6-8, 16 and Deere Rebuttal, p. 33.) Again, the use of increased demand, whether or not appropriate, in this case is speculative and without consistent matching of demand and investment should not be given significant weight.

Again, AT&T's proposal is at best the minimum cost for local switching; SWBT's proposal is at the upper limit of cost, and that cost is probably less if other factors are taken into account, such as the few changes SWBT admits should occur, depreciation and cost of money (which, although agreed to, has not been included in SWBT studies or Cox's initial proposal; such would cause even SWBT's studies to be less overall). Thus a local switch rate less than SWBT's cost proposal is appropriate. I note that SWBT has further agreed that some aspects of its original proposal should be modified to account for some AT&T suggestions. (*See* Smith Rebuttal, p. 18; Moore Rebuttal, pp. 11-12, 50; and

Conwell Rebuttal, p. 29.) Thus, it seems fairly accurate to conclude that the costs are less than SWBT originally suggested, and therefore (as it was with Loop) are moving towards the rates in the stipulation. The stipulation, once again taking Dr. Collins' testimony into account, is well within the range of costs proposed and is therefore a just and reasonable rate for local switching. Cox witness Dr. Collins, in response to AT&T cross examination, testified that local switching was 30 percent overstated in SWBT's initial cost proposal, but that the stipulation changes were more in line with Cox's opinion on costs. (*See* Tr., March 11, 1998, p. bwm 21 (Collins).)

3. **Transport**

Transport is actually a series of cost studies. (*See* Moore Rebuttal, pp. 22-23.) While several issues were discussed in the testimony, the principal issues appeared to be disputes regarding: (a) circuit counts; (b) fill; and (c) entrance facilities. (*See* Turner, pp. 7, 16, 30; Moore Rebuttal, p. 21.) Additionally, Mr. Moore agreed that some aspects of the transport studies should be altered to correct certain points. (*See, e.g.*, Moore Rebuttal. pp. 48, 51 (DCS and DSX).) Thus, it is a given that we are beginning the evaluation at a point less than SWBT's original study proposal. Historically, in other Commission cases, it is often true that during the course of hearings, concessions are agreed to, mistakes noted, issue clarified. This does not mean, however, that the entire process must begin again. It is sufficient and reasonable to take those substantive events into account in evaluating the overall rate proposals.

The issue of circuit counts for the interoffice dedicated transport study was raised by AT&T witness Turner. While there are several permeation of this argument, circuit count impacts weightings. (*See* Moore Rebuttal, pp. 24-25.)

Part of the issue includes whether entrance facilities should be included. This will be discussed later herein, but for purposes of interoffice transport, the ALJ finds that those should not be included in weighting as is true for other circuits, e.g. private line. (*See* Moore Rebuttal, pp. 26-29.) With regard to message traffic, while there is a dispute whether those were or were not included, it appears that such dispute is not significant and that any changes would have only a minimal impact under any circumstances. (*See* Moore Rebuttal, pp. 35-36.)

The ALJ further finds that entrance facilities are a separate UNE. (*See* Moore Rebuttal, pp. 37-39.) These are not interoffice facilities and should have their own cost. Entrance facilities identify the facilities from the CLEC location to the SWBT office and are not on interoffice rings. Interoffice facilities go between SWBT offices. The ALJ concludes that the costs are different and should not be combined. The cost studies should be based upon the UNE as defined in the Interconnection Agreement between SWBT and AT&T.[16]

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[16] In the course of the hearing, the ALJ took judicial notice of the Interconnection Agreement entered into between SWBT and AT&T, which has been approved by this Commission, and took such Agreement into account in making his findings herein.

Fill factors, as was true in loop fill, are debated on the grounds of actual vs. objective fill. (*See* Turner, p. 30, and compare with Moore Rebuttal, pp. 42-45.) SWBT claimed the use of actual fill is consistent with TELRIC principles since it reflects reasonable utilization. AT&T disagreed. Objective fill may never be reached and is forward looking only in that it is speculative about what might be achieved. Whether objective fill actually is achieved differs in many engineering cases. (*See, e.g.*, Moore Rebuttal, p. 42.)

The stipulation rate is neither of these two extremes. However, given the concessions by Mr. Moore, SWBT's cost would be lower than proposed and closer to the stipulation rates. Again, Dr. Collins' opinion is relevant and reasonable to support the stipulation on transport. A rate reduction of 30 percent overall from SWBT's original proposal is a just and reasonable rate. AT&T's proposal, at best, is the lowest possible cost and rate, while SWBT's is the opposite extreme, but in any event, it seems clear that the resulting cost is somewhat higher giving ample support for the stipulation rate.

D. LRIC (Non-Recurring Costs)

Non-recurring activities are generally those that are incurred once in ordering or provisioning a UNE. (*See* Segura, p. 5.) These are basically time multiplied by the labor activity to result in cost algorithms. The testimony and cost studies filed basically identified two broad categories: (a) service order charges; and (b) NRCs for the provisioning of UNEs. In support of its proposals, AT&T offered the testimony of Mr. Segura. SWBT offered the testimony of Ms. Ham, Ms. Smith, Mr. Michalczyk and Ms. Sadlon.

The service order charge issue is principally a disagreement as to the type of activity that will be needed when AT&T places a service order. AT&T assumed that it will place all electronic orders. (*See* Segura, pp. 14-15.) There is currently an electronic interface for ordering resale services (EASE) and two electronic order delivery vehicles for some UNEs (LEX and EDI). (*See* Ham Direct, p. 6; Ham Rebuttal, pp. 3-4.) AT&T confirmed that it does not have any electronic interface available to interact with SWBT (or Mr. Segura knew of none). (*See* Tr., March 12, 1998, pp. rk 147, 159-161, 168.) The assumption, along with the associated estimates of time, flow thru, etc. that Mr. Segura proposed are, at this point, speculative. SWBT identified that manual activity would be needed for all UNE service orders submitted at the present time. National standards groups are meeting to develop others, but none are on line at this point. (*See* Ham Rebuttal, p. 14; Smith Rebuttal, pp. 50-54.) The actual activity SWBT will perform was documented by Ms. Smith. This difference in input assumptions is significant and while it might be true someday, currently it is not correct that all submissions will be electronic; practically, that cannot be done and may never be done for some elements that are complex. Even for those cases where electronic delivery is not available for UNE by LEX/EDI, AT&T has yet to take advantage of that electronic means, and in fact, has indicated that it does not have plans at any time in the near future to enter the Oklahoma market, if ever. (*See* Tr., Mar. 12, 1998, pp. rk 147, 159-161, 168, 192 (Segura), and *see* Cause No. PUD 97-560.) Based upon the current record, the ALJ concludes that manual UNE service order activity is the likely option. If new changes occur, those should be adjusted and recognized in future studies when data is available.

SWBT proposed an electronic delivery rate of $5.00 to recognize electronic delivery of orders (not ordering), which nevertheless will then require manual activity by SWBT, although somewhat less activity than FAX delivery or similar delivery. (*See* Smith Rebuttal, pp. 52, 63; Auinbauh Rebuttal, p. 15.) Ms. Smith noted that while there is no specific $5.00 cost study, based upon her manual service order study, the cost still exceeds the rate proposal. (*See* Smith Rebuttal, p. 63.) Based upon other current electronic delivery use data for EASE and access service records (ASRs), it also seems more accurate to conclude that the utilization will be far less (e.g., fall out results) for AT&T than Mr. Segura argued should apply. (*See* Smith Rebuttal, pp. 60-62.) The ALJ finds that the $5 rate is more than reasonable and just for those circumstances where AT&T uses electronic delivery.

The other NRC activities are also disputed on the above same basis. Mr. Segura, for AT&T, claimed that almost all of the service orders should process through provisioning with little physical intervention by SWBT employees. (*See* Segura, pp. 5-7.) SWBT noted that such continuity is not achievable and is unrealistic even in its own service standards. Considerable manual activity will be required as is reflected in Mr. Moore's studies. (*See, e.g.*, Michalczyk Rebuttal, pp. 1-6; Sadlon Rebuttal, pp. 1-5; Moore Rebuttal, pp. 17-22.) AT&T's proposal does not represent the activity for the network which SWBT is asked to unbundle. Thus, AT&T's assumptions on DIP/DOP and IDLC, which impact the amount of physical activity, are not representative of the SWBT network. SWBT is not obligated to engage in this quality upgrade. *See Iowa Utilities Commission, supra*.

With respect to these studies, there was a difference in opinion concerning the time estimates for the activities required (given, for the sake of this part, that AT&T disagrees with the extent of the activities, but in some respect agrees for its 2 percent fall out, they will be required). SWBT witnesses who participated in the activities testified on the manner and the means for time estimates. (*See, e.g.*, Michalczyk Rebuttal, pp. 3-6.) For AT&T, Mr. Segura did not participate directly in most estimates, all of which he agreed were national default values produced by others on a national AT&T team. Mr. Segura was unable to answer questions directly about the formulation of these time estimates. (*See* Tr., March 12, 1998, pp. rk 133-139, 163, 203-205, 212-214, 219-223 (Segura).)

Cox witness Dr. Collins noted that NRCs in the stipulation are 33 percent less than SWBT's proposed rates. This was consistent with Cox's view that the studies should at a minimum be 30 percent less than what SWBT proposed. (*See* Tr., March 11, 1998, p. bwm-20.) Given that there are some disputes on labor rates and whether those differences should be adjusted in recurring or non-recurring costs, SWBT's proposals are the upper cost limit. Again, AT&T's form the lowest limit for a cost-based determination. The stipulation is reasonable resulting in just and reasonable NRC rates under these cost considerations.

E. Other Matters

There were various other matters in dispute, such as labor rate factors, building factors, depreciation lives, and the common cost allocator. (*See, e.g.*, Rhinehart Testimony, pp. 10, 13, 37, 47.) In some instances, the disputes would have a slight impact on the proposals. (*See* Conwell Rebuttal, pp. 13-14, 22, 26, 29.) The ALJ has reviewed the testimony on these matters and the facts in the hearing and studies. In some respects, the ALJ concludes that the disputes are moot by the reduction in agreed rates which lowers the cost ceiling proposed by SWBT by 33 percent. In other instances, the ALJ concludes that AT&T's suggestions, e.g., common cost, are speculative. The matter of depreciation lives is of relevance and material but given the ranges, is amply addressed within the stipulation results which reduce recurring costs (where the cap cost is applied) considerably. Dr. Collins, on behalf of Cox, made particular references to common cost, capital cost and other factors in his direct testimony in arguing that SWBT's costs were overstated. His review of the stipulated rates assured himself that the rates reflect reasonable adjustments to costs as he recommended, albeit not perfect, and are cost-based. (*See* Tr., March 11, 1998, pp. bwm 8, 16 (Collins).) The ALJ concurs with Cox.

Furthermore, SWBT witness Cooper filed embedded studies for the principal elements of loop, local switching and transport. In keeping with the obligation for just and reasonable rates while permitting "reasonable profit," SWBT argued that these embedded rates represent the more likely actual cost that it will incur in providing service and UNEs in Oklahoma. Traditionally, the Commission's obligation has been to permit a utility the opportunity to achieve its revenue requirement and attract capital. *See, e.g., Southwestern Bell Tel. Co. v. State*, 825 P.2d 262 (Okla. 1992). In reviewing the stipulation rates with the embedded costs, together with the requirement in Section 252 of the Act that cost-based rates may include reasonable profit, the ALJ concludes that the stipulated rates meet these obligations; are cost-based and will enable SWBT a reasonable opportunity for recovery of capital in a competitive market at reasonable profit and more importantly, will allow Cox and other CLECs in Oklahoma to effectively compete against SWBT in the Oklahoma marketplace.

Given the lengthy discussion above, the ALJ will not devote any additional discussion to PUD 97-442, but would note that the same principles discussed above with respect to PUD 97-213 support the Commission's adoption of the Staff's PUD 97-442 stipulation *in toto*.

In summary, the ALJ finds that the stipulation reached between Cox and the Staff in PUD 97-213 and the stipulation proposed by Staff in PUD 97-442, and the rates contained in those stipulations, are lawful, fair and reasonable, are amply supported by competent and substantial evidence in the record and therefore recommends that the Commission adopt and approve such stipulations *in toto*.

IT IS THEREFORE THE RECOMMENDATION OF THE ADMINISTRATIVE LAW JUDGE that the above-entitled findings of fact and conclusions of law be the order of the Commission.

Dated this 30th day of June, 1998.

Robert E. Goldfield

ROBERT E. GOLDFIELD
Administrative Law Judge